AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-84. (Cancelled)

85. (New) A method for treating an annulus fibrosis having an outer layer, at least one inner layer, and a defect extending through the outer and inner layers, comprising the steps of:

inserting a porous mesh into the defect in the annulus fibrosis, the porous mesh being arranged in a structure having a longitudinal axis, a distal end, a proximal end, and a length between the distal and proximal ends;

advancing the porous mesh distally beyond the outer layer in the annulus fibrosis; and

expanding the porous mesh to a diameter larger than the defect,

wherein the porous mesh expands radially by reducing the length between the distal and proximal ends, and

wherein the porous mesh prevents escape of nucleus pulposus through the defect.

86. (New) The method of claim 85, wherein the step of inserting the porous mesh into the defect further comprises the steps of inserting an elongate tubular sheath into the defect and advancing the porous mesh through the sheath into and distally beyond the outer layer in the annulus fibrosis.

87. (New) The method of claim 86, wherein the step of advancing the porous mesh through the sheath further comprises the step of operating a plunger to push the porous mesh out of the sheath.

88. (New) The method of claim 85, wherein the mesh is a self expanding mesh.

89. (New) The method of claim 88, wherein the porous mesh has a first elongated shape and a memory of a second radially expanded shape, and wherein the method further comprises the step of straightening the porous mesh for introduction into the defect, whereupon it is released and assumes the second radially expanded shape due to the memory effect.

90. (New) The method of claim 85, wherein the porous mesh further comprises a radio-opaque contrast material.

91. (New) The method of claim 85, wherein the porous mesh further comprises one or more anchors, and wherein the method further comprises the step of securing the one or more anchors to at least one of the annulus fibrosis and the vertebra.

92. (New) The method of claim 85, wherein the porous mesh is advanced distally so that the proximal end of the mesh lies beyond the outer layer of the annulus fibrosis.

93. (New) The method of claim 85, wherein the porous mesh is arranged in the shape of a plug.

94. (New) The method of claim 85, wherein the porous mesh is arranged in a generally conical shape when expanded.

95. (New) The method of claim 94, wherein the conical shape has a convex surface and wherein the convex surface is facing outwardly with respect to the outer layer of the annulus fibrosis.

96. (New) The method of claim 94, wherein the conical shape has a convex surface and wherein the convex surface is facing inwardly with respect to the outer layer of the annulus fibrosis.

97. (New) The method of claim 85, wherein the porous mesh is titanium.

98. (New) The method of claim 85, wherein the porous mesh is expanded within the defect proximal to the nucleus pulposus.

99. (New) A method for treating an annulus fibrosis having an outer layer, at least one inner layer, and a defect extending through the outer and inner layers, comprising the steps of:

inserting an implant into the defect in the annulus fibrosis, the implant being arranged in a structure having a longitudinal axis, a distal end, a proximal end, and a length between the distal and proximal ends;

advancing the implant distally beyond the outer layer in the annulus fibrosis; and

expanding the implant to a diameter larger than the defect,

wherein the implant expands radially by reducing the length between the distal and proximal ends, and

wherein the implant prevents escape of nucleus pulposus through the defect.

100. (New) The method of claim 99, wherein the step of inserting the implant into the defect further comprises the steps of inserting an elongate tubular sheath into the defect and advancing the implant through the sheath into and distally beyond the outer layer in the annulus fibrosis.

101. (New) The method of claim 100, wherein the step of advancing the implant through the sheath further comprises the step of operating a plunger to push the implant out of the sheath.

102. (New) The method of claim 99, wherein the implant is a porous mesh.

103. (New) The method of claim 99, wherein the implant is a self expanding mesh

104. (New) The method of claim 103, wherein the mesh has a first elongated shape and a memory of a second radially expanded shape, and wherein the method further comprises the step of straightening the mesh for introduction into the defect, whereupon it is released and assumes the second radially expanded shape due to the memory effect.

105. (New) The method of claim 99, wherein the implant further comprises a radio-opaque contrast material.

106. (New) The method of claim 99, wherein the implant further comprises one or more anchors, and wherein the method further comprises the step of securing the one or more anchors to at least one of the annulus fibrosis and the vertebra.

107. (New) The method of claim 99, wherein the implant is advanced distally so that the proximal end of the implant lies beyond the outer layer of the annulus fibrosis.

108. (New) The method of claim 99, wherein the implant is arranged in the shape of a plug.

109. (New) The method of claim 99, wherein the implant is arranged in a generally conical shape when expanded.

110. (New) The method of claim 109, wherein the conical shape has a convex surface and wherein the convex surface is facing outwardly with respect to the outer layer of the annulus fibrosis.

111. (New) The method of claim 109, wherein the conical shape has a convex surface and wherein the convex surface is facing inwardly with respect to the outer layer of the annulus fibrosis.

112. (New) The method of claim 99, wherein the implant is titanium.

113. (New) The method of claim 99, wherein the implant is expanded within the defect proximal to the nucleus pulposus.

114. (New) A method for treating an annulus fibrosis having an outer layer, at least one inner layer, and a defect extending through the outer and inner layers, comprising the steps of:

inserting a porous mesh into the defect in the annulus fibrosis;

advancing the porous mesh distally beyond the outer layer in the annulus fibrosis;

expanding the porous mesh to a diameter larger than the defect;

providing a first elongate fastening member having a first end region, a second end region, and an anchor on the first or second end regions, the anchor being substantially transverse when deployed; and

securing the first end region of the first elongate fastening member to the porous mesh and securing the second end region of the first elongate fastening member to the annulus fibrosis,

wherein the porous mesh prevents escape of nucleus pulposus through the defect.

115. (New) The method of claim 114, wherein the porous mesh is arranged in a structure having a longitudinal axis, a distal end, a proximal end, and a length between the distal and proximal ends, and wherein the porous mesh radially expands by reducing the length between the distal and proximal ends.

116. (New) The method of claim 114, wherein the step of inserting the porous mesh into the defect further comprises the steps of inserting an elongate tubular sheath into the defect and advancing the porous mesh through the sheath into and distally beyond the outer layer in the annulus fibrosis.

117. (New) The method of claim 116, wherein the step of advancing the porous mesh through the sheath further comprises the step of operating a plunger to push the porous mesh out of the sheath.

118. (New) The method of claim 114, wherein the mesh is a self expanding mesh.

119. (New) The method of claim 118, wherein the porous mesh has a first elongated shape and a memory of a second radially expanded shape, and wherein the method further comprises the step of straightening the porous mesh for introduction into the defect, whereupon it is released and assumes the second radially expanded shape due to the memory effect.

120. (New) The method of claim 114, wherein the porous mesh further comprises a radio-opaque contrast material.

121. (New) The method of claim 114, wherein the porous mesh is arranged in a generally conical shape when expanded.

122. (New) The method of claim 121, wherein the conical shape has a convex surface and wherein the convex surface is facing outwardly with respect to the outer layer of the annulus fibrosis.

123. (New) The method of claim 121, wherein the conical shape has a convex surface and wherein the convex surface is facing inwardly with respect to the outer layer of the annulus fibrosis.

124. (New) The method of claim 114, wherein the porous mesh is arranged in the shape of a plug.

125. (New) The method of claim 114, wherein the porous mesh is titanium.

126. (New) The method of claim 114, wherein the anchor is positioned anterior the porous mesh.

127. (New) The method of claim 114, wherein a portion of the first elongate fastening member extends posterior the porous mesh.

128. (New) The method of claim 127, wherein the portion of the first elongate fastening member that extends posterior the porous mesh terminates in a widened region positioned posterior the porous mesh.

129. (New) The method of claim 114, further comprising the steps of:

inserting a second elongate fastening member having a first end region, a second end region, and an anchor on the first or second end regions, the anchor being substantially transverse when deployed; and

securing the first end region of the second elongate fastening member to the porous mesh and

securing the second end region of the second elongate fastening member to the annulus fibrosis.

130. (New) The method of claim 129, wherein the first elongate fastening member is secured to the porous mesh at a first position and the second elongate fastening member is secured to the porous mesh at a second position, and wherein the defect in the annulus fibrosis lies generally between the first position and the second position.

131. (New) The method of claim 114, wherein the anchor is adapted to lie substantially perpendicular to a longitudinal axis of the first elongate fastening member when the anchor is deployed.

132. (New) The method of claim 114, wherein the porous mesh is expanded within the defect proximal to the nucleus pulposus.

133. (New) A method for treating an annulus fibrosis having an outer layer, at least one inner layer, and a defect extending through the outer and inner layers, comprising the steps of:

inserting an implant into the defect in the annulus fibrosis;

advancing the implant distally beyond the outer layer in the annulus fibrosis;

expanding the implant to a diameter larger than the defect;

providing a first elongate fastening member having a first end region, a second end region, and an anchor on the first or second end regions, the anchor being substantially transverse when deployed; and

securing the first end region of the first elongate fastening member to the implant and securing the second end region of the first elongate fastening member to the annulus fibrosis,

wherein the implant prevents escape of nucleus pulposus through the defect.

134. (New) The method of claim 133, wherein the implant is arranged in a structure having a longitudinal axis, a distal end, a proximal end, and a length between the distal and proximal ends, and wherein the implant radially expands by reducing the length between the distal and proximal ends.

135. (New) The method of claim 133, wherein the step of inserting the implant into the defect further comprises the steps of inserting an elongate tubular sheath into the defect and advancing the implant through the sheath into and distally beyond the outer layer in the annulus fibrosis.

136. (New) The method of claim 135, wherein the step of advancing the implant through the sheath further comprises the step of operating a plunger to push the implant out of the sheath.

137. (New) The method of claim 133, wherein the implant is a porous mesh.

138. (New) The method of claim 133, wherein the implant is a self expanding mesh.

139. (New) The method of claim 138, wherein the implant has a first elongated shape and a memory of a second radially expanded shape, and wherein the method further comprises the step of straightening the implant for introduction into the defect, whereupon it is released and assumes the second radially expanded shape due to the memory effect.

140. (New) The method of claim 133, wherein the implant further comprises a radio-opaque contrast material.

141. (New) The method of claim 133, wherein the implant is arranged in the shape of a plug.

142. (New) The method of claim 133, wherein the implant is arranged in a generally conical shape when expanded.

143. (New) The method of claim 142, wherein the conical shape has a convex surface and wherein the convex surface is facing outwardly with respect to the outer layer of the annulus fibrosis.

144. (New) The method of claim 142, wherein the conical shape has a convex surface and wherein the convex surface is facing inwardly with respect to the outer layer of the annulus fibrosis.

145. (New) The method of claim 133, wherein the implant is titanium.

146. (New) The method of claim 133, wherein the anchor is positioned anterior the implant.

147. (New) The method of claim 133, wherein a portion of the first elongate fastening member extends posterior the implant.

148. (New) The method of claim 147, wherein the portion of the first elongate fastening member that extends posterior the implant terminates in a widened region positioned posterior the implant.

149. (New) The method of claim 133, further comprising the steps of:

inserting a second elongate fastening member having a first end region, a second end region, and an anchor on the first or second end regions, the anchor being substantially transverse when deployed; and

securing the first end region of the second elongate fastening member to the implant and securing the second end region of the second elongate fastening member to the annulus fibrosis.

150. (New) The method of claim 149, wherein the first elongate fastening member is secured to the implant at a first position and the second elongate fastening member is secured to the implant at a second position, and wherein the defect in the annulus fibrosis lies generally between the first position and the second position.

151. (New) The method of claim 133, wherein the anchor is adapted to lie substantially perpendicular to a longitudinal axis of the first elongate fastening member when the anchor is deployed.

152. (New) The method of claim 133, wherein the implant is expanded within the defect proximal to the nucleus pulposus.